



2015 REPORT

# State of Bicycling in Raleigh

The State of Bicycling in Raleigh Report provides a snapshot of Raleigh's existing bicycling environment, and will help set the stage for developing recommendations in the BikeRaleigh Plan Update.

The baseline information in this report summarizes progress on the 2009 plan and provides context for next steps to take biking to the next level in Raleigh!

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## ACKNOWLEDGEMENTS

Thanks to the local residents, business leaders, community leaders, and government staff that participated in the development of this report:

Raleigh City Council

Raleigh Planning Department

Raleigh Public Works Department

Raleigh Parks, Recreation, &  
Cultural Resources Department

Raleigh Bicycle & Pedestrian  
Advisory Commission

Oaks & Spokes

North Carolina Department of  
Transportation



LETTER  
FROM THE MAYOR







*City Of Raleigh*  
*North Carolina*

### **The State of Bicycling in Raleigh**

The City of Raleigh has worked hard to make itself a more bicycle-friendly city. Since we adopted a new Bicycle Transportation Plan in 2009, the city received bronze-level Bicycle Friendly Community designation from the League of American Bicyclists, but there is still much more work to be done. The update of our current plan will provide us with the tools to continue to build a more active, vibrant community where bicycling is an integral, safe, and convenient part of our transportation network.

#### *The 2015 BikeRaleigh plan will:*

- » Improve opportunities for safety, equity, vibrancy, health, and economic development;
- » Prioritize projects that serve both the greatest public need and interest; and,
- » Identify implementation strategies to make Raleigh even more bicycle-friendly.

Biking is not only one of the most affordable ways to get around Raleigh—it also protects our climate by reducing the greenhouse gasses that cause global warming. We also recognize that businesses, families, and people of all ages enjoy the contribution to our quality of life that cycling provides.

We're making progress by expanding our infrastructure and programs that support bicycling. Our city staff, our Bicycle & Pedestrian Advisory Commission (BPAC), and local advocacy groups have dedicated countless hours to bringing high-quality education, encouragement, and enforcement programs that are creating a strong and vibrant cycling culture here. I appreciate their commitment and hard work.

We invite you to read this Report about our progress in the five E's (engineering, education, encouragement, enforcement, and evaluation). But more importantly, we invite you to bicycle around our great city whether you are Downtown, in your neighborhood, or on one of our world-class greenways. BikeRaleigh - that's how we roll!

Sincerely,

Nancy McFarlane  
Mayor

**BIKE NETWORK GROWTH  
2009-2015**

**2009**

**73** MILES

67 mi of greenway; 5 mi of bike lanes; 1 mi of sharrows

**2010**

**79** MILES

71 mi of greenway; 6 mi of bike lanes; 2 mi of sharrows

**2013**

**127** MILES

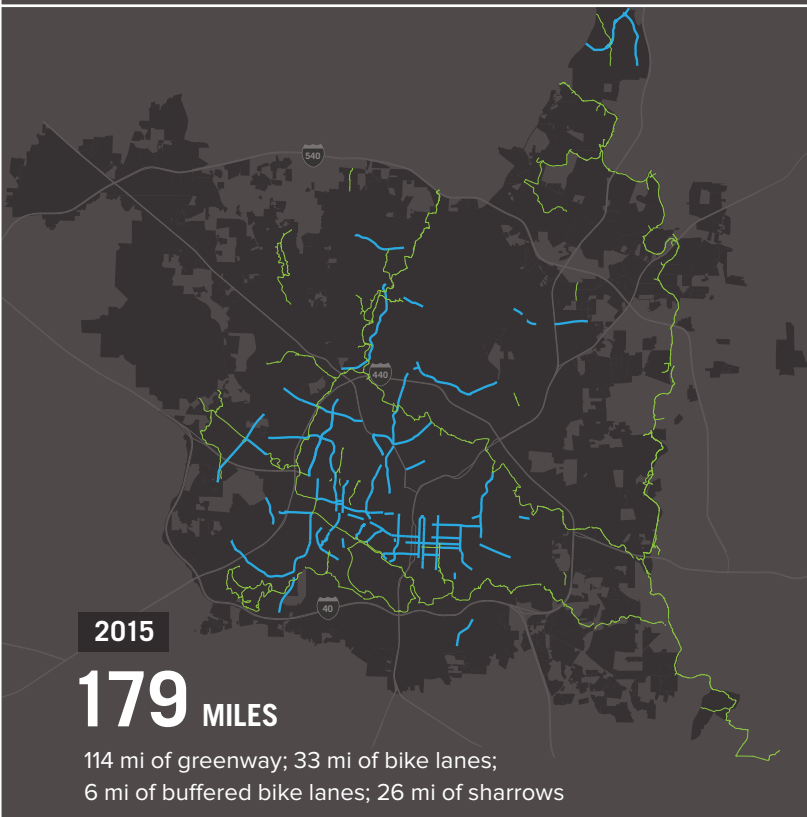
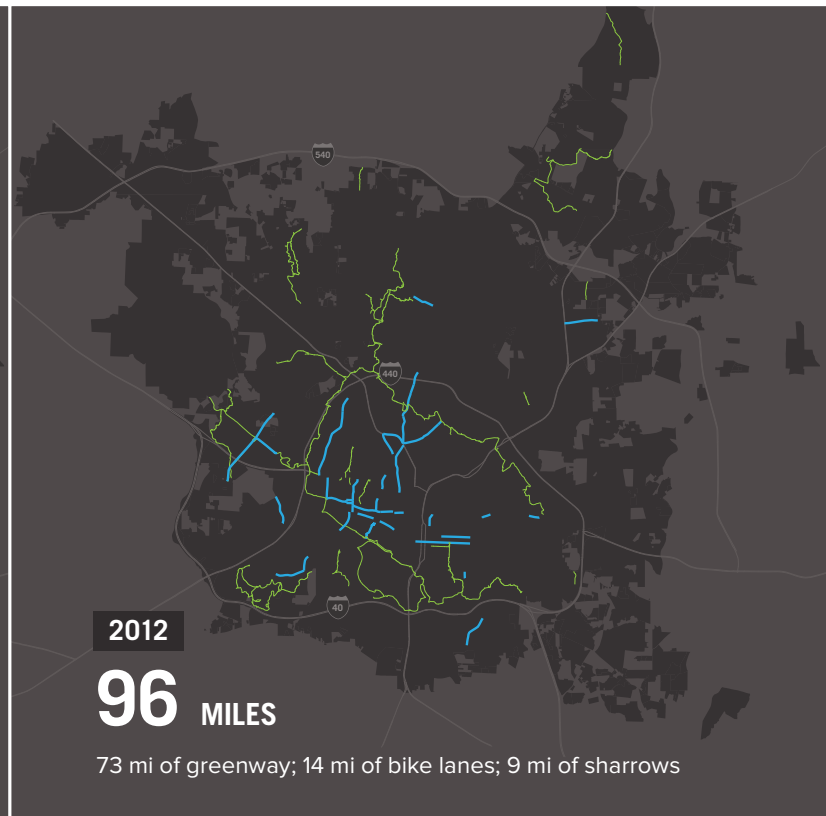
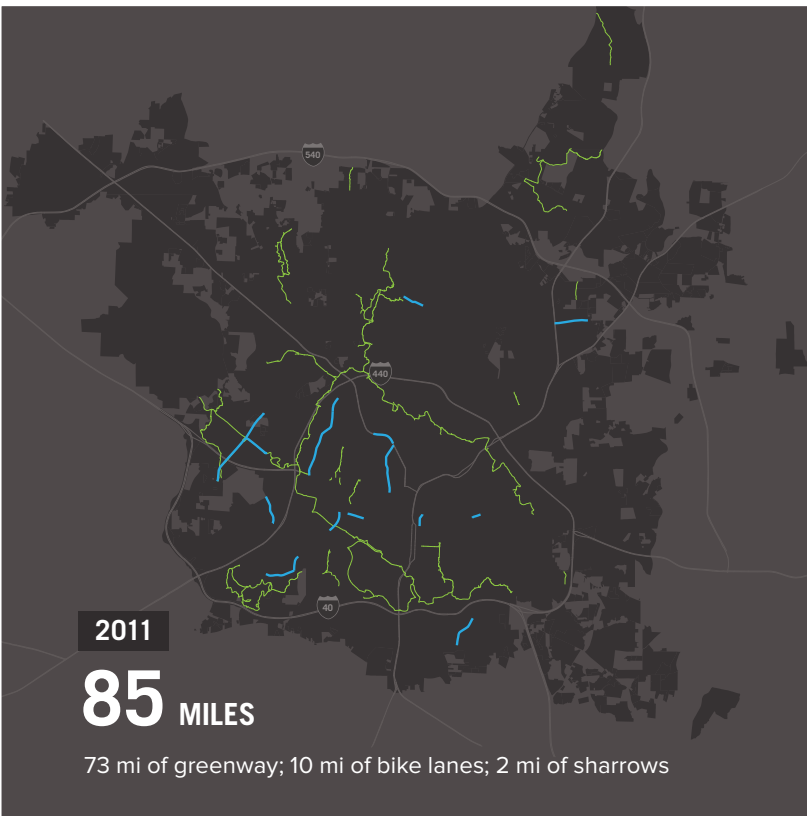
101 mi of greenway; 17 mi of bike lanes; 9 mi of sharrows

**2014**

**139** MILES

109 mi of greenway; 20 mi of bike lanes; 10 mi of sharrows





N  
 ▲  
 — GREENWAYS  
 — BIKE LANES, BUFFERED BIKE LANES, AND SHARROWS

#### MILES INSTALLED EACH YEAR

- 2010** 2.9 miles of greenways; 1.4 miles of bike lanes
- 2011** 2.8 miles of greenways; 3.5 miles of bike lanes;  
0.5 miles of sharrows
- 2012** 4.3 miles of bike lanes; 6.7 miles of sharrows
- 2013** 27.5 miles of greenways; 3.4 miles of bike lanes;
- 2014** 7.6 miles of greenways; 2.6 miles of bike lanes;  
1.2 miles of sharrows
- 2015** 5.6 miles of greenways; 13.4 miles of bike lanes;  
16.0 miles of sharrows; 6.0 miles of buffered bike lanes

In 2010, Raleigh had 5.3 miles of on-road bicycle facilities. By the end of 2015, the network will grow to over 70 miles and consist of conventional and protected bike lanes. When you combine the on-road bicycle facilities with the expansive capital area greenway system, you'll see a framework for a well-connected cycling network.



Hargett Street bike corral

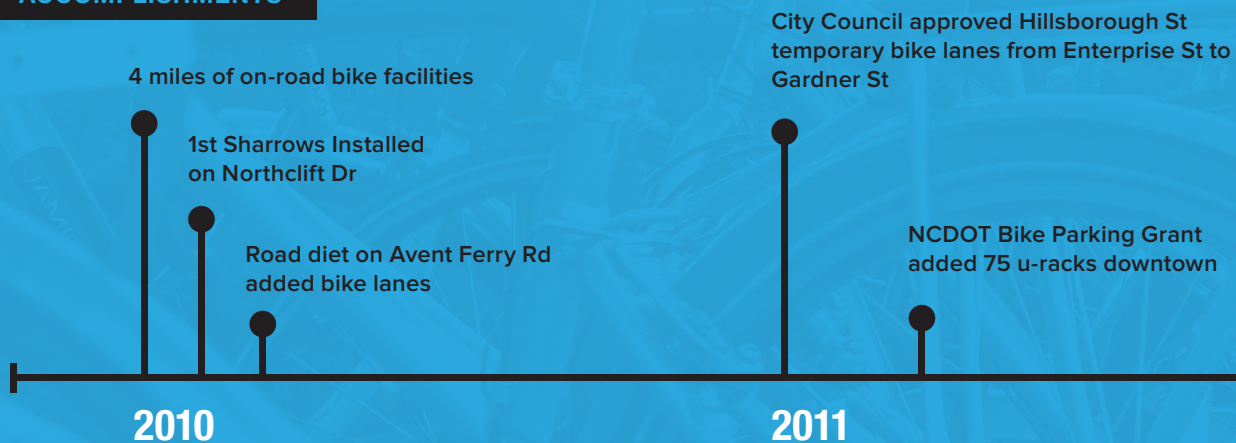
## Bike parking

Bike parking is installed either through private development or by city-initiated projects.

### HIGHLIGHTS INCLUDE

- » **Downtown Bike Rack Project**  
75 bike racks were installed in 2011 with grant funds from NCDOT.
- » **2012 RaleighRacks**  
Partnership with Architects for Humanity–Raleigh to design, fund, and install artistic bike racks.
- » **Hargett Street Bike Corral**  
Partnership with Oaks & Spokes to install the areas first on-street bike.
- » **RaiseRaleigh**  
Crowdfunding effort that raised over \$3,000 to install five custom BikeRaleigh racks downtown.

### ACCOMPLISHMENTS







*Artistic bike rack in Seaboard Station*



*Artist bike rack outside of the NCDOT building on Wilmington Street*



*BikeRaleigh racks designed by local artist and funded through an online crowdfunding effort*



*The u-rack style has been adopted as the bike parking standard*

1st standalone bike project installed (STP-DA project)

RaleighRacks design competition brought five artistic bike racks downtown

\$40M Transportation Bond approved with a 67% passing rate.

Hillsborough St Road Diet added bike lanes and on-street parking between Oberlin Rd and Morgan St

House Creek Greenway opened

2012

## Implementation

### PROJECT TYPES



#### Resurfacing Projects

Repaving projects provide a clean slate for revising pavement markings and adding bicycle facilities. NCDOT's program focuses on major and minor thoroughfares, while the City's program focuses on collector and local streets.

**PRO** The cost to add bicycle facilities is absorbed into annual resurfacing budget.

**CON** Timeline for engineering plans is often fast paced and streets are selected on pavement quality, not bicycle connectivity.



#### New Construction

Operating under a Complete Street mentality, every new roadway or widening project will integrate bicycle traffic.

**PRO** This cost to implement these facilities is absorbed into the total cost of the project.

**CON** Lengthy implementation timeline, often takes 1-2 years to construct after designs are complete.



#### Standalone Bicycle Projects

These restriping projects can easily add shared lane markings without making any other changes to the roadway. In some cases, travel lanes can be narrowed to install bicycle lanes or even buffered bicycle lanes.

**PRO** Projects can be selected based on prioritized bicycle projects from 2009 Bicycle Plan.

**CON** Requires dedicated funding sources from the City or relies on federal grant programs.

### ACCOMPLISHMENTS

1st on-street bike corral installed on Hargett St

Bicycle Design Standards adopted into Street Design Manual

Crowdfunded effort to add custom bike racks

\$75M Transportation Bond approved with a 70% passing rate.



2013



## ON-ROAD BIKEWAY FUNDING

The funding summary to the right is a combination of local, state, and federal funding sources budgeted for bicycle improvements in Raleigh.

However, much of the network has been built through state and local resurfacing projects, which isn't accounted for:

**FY09:** \$314,000

**FY10:** \$423,000

**FY11:** \$429,000

**FY12:** \$72,000

**FY13:** \$1.35M

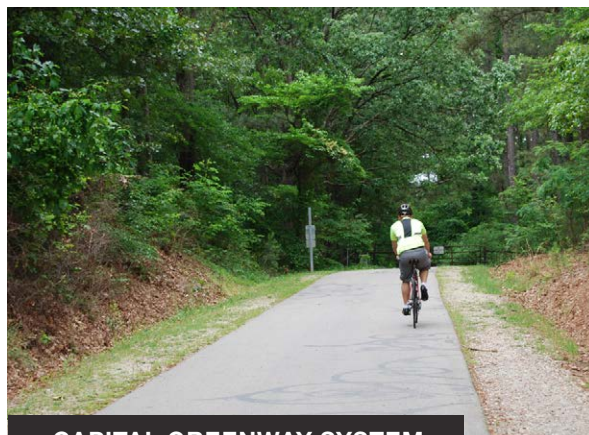
**FY14:** \$2.41M

**FY15:** \$4.62M

**TOTAL: \$9.62M**

## NEXT STEPS

- 01** Fix small gaps in bicycle network, focusing on connecting on-road facilities to greenway trail system.
- 02** Address large holes in network.
- 03** Develop an “all ages and abilities” route network to serve a greater percentage of the population.
- 04** Utilize innovative design solutions, such as bicycle signals, bike boxes, and intersection markings to enhance the all ages and abilities network.
- 05** Implement “pop-up” demonstrations to garner support for bicycle facility development.
- 06** Develop a Downtown Districts Trail connecting all five downtown districts.



## CAPITAL GREENWAY SYSTEM

The Capital Area Greenway system has over 110 miles of trails, made up of 28 individual segments that each have their own unique features, destinations, and character.

The City has dedicated significant funding to build the existing greenway network.

The funding summary to the right includes a combination of local, state, federal sources over the past 5 years.

**FY10:** \$1.5M

**FY11:** \$3M

**FY12:** \$13M

**FY13:** \$14M

**FY14:** \$19M

**TOTAL: \$50M**

*Photo: The 27.5 mile Neuse River Greenway connects five communities in eastern Wake County.*

Majority of the Neuse River Trail completed

Bike wayfinding signs added along the Art to Heart Route

1st buffered bike lanes installed

Gorman St cycle track concept approved and fully funded

\$91M Parks Bond approved with 68% passing rate. \$15M to be spent on greenways.

\$1.1M bike projects added 27 miles to on-road network

1st fix-it station installed

First Green pavement markings installed

2014

2015



## ENGINEERING



**HILLSBOROUGH STREET ROAD DIET** between Morgan Street and Oberlin Road

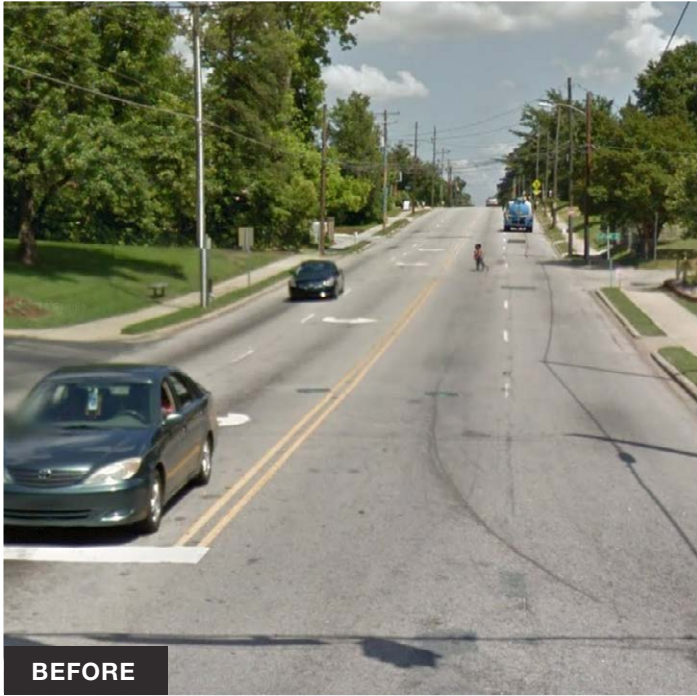
### SHARROWS



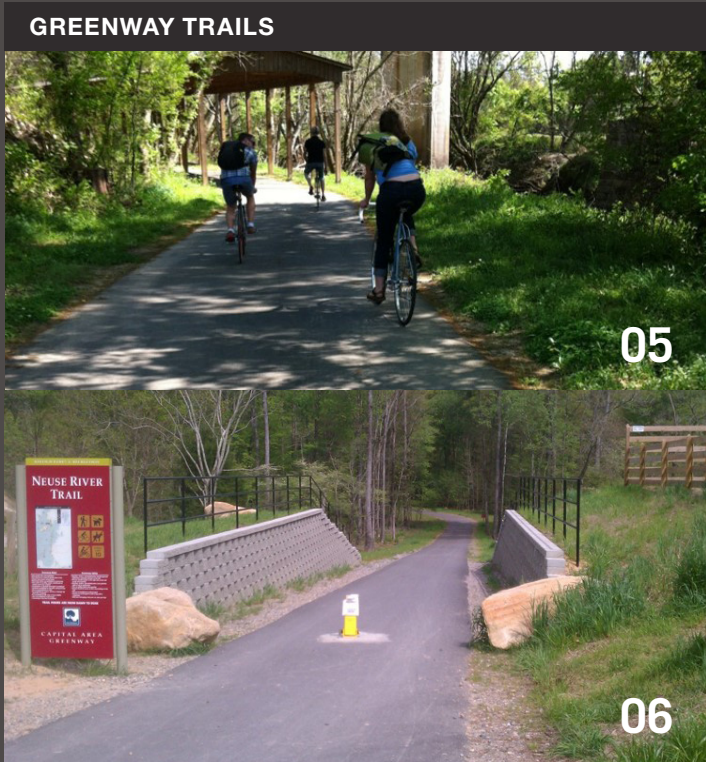
### BIKE LANES







**POOLE ROAD ROAD DIET** between New Bern Avenue and Martin Luther King Jr. Boulevard



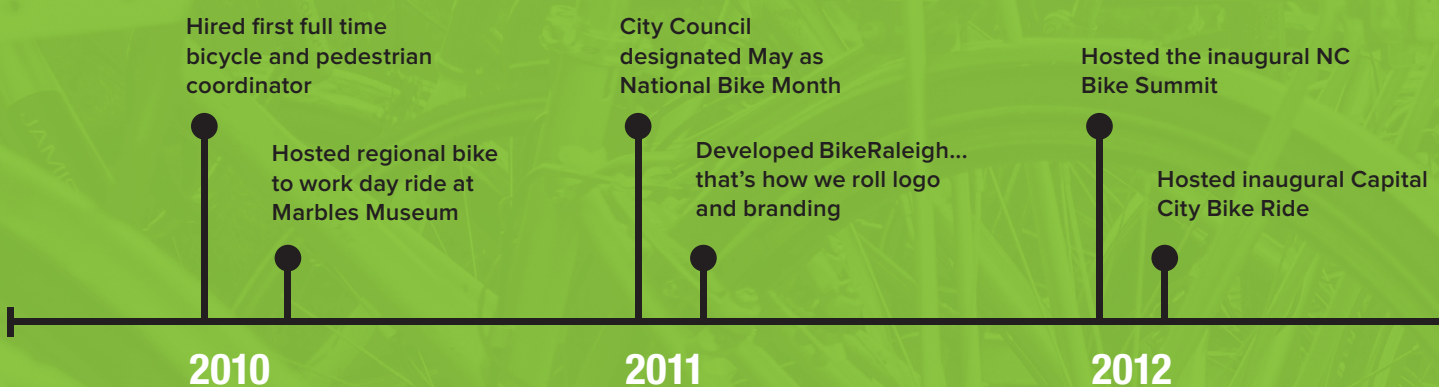
- 01** Brooks Ave Sharrows
- 02** Pullen Road Sharrows
- 03** Pilot bike lanes on Hillsborough Street from Gardner Street to Enterprise St
- 04** Salisbury Street Bike Lane
- 05** Crabtree Creek Greenway
- 06** Neuse River Greenway

## ENCOURAGEMENT

Encouragement programs focus on increasing the fun of biking, thereby increasing public awareness and ultimately increasing the number of bicycle trips in Raleigh. The BikeRaleigh program is supported by several key partners including government agencies, BPAC, active community groups, private businesses, and individual residents.



## ACCOMPLISHMENTS

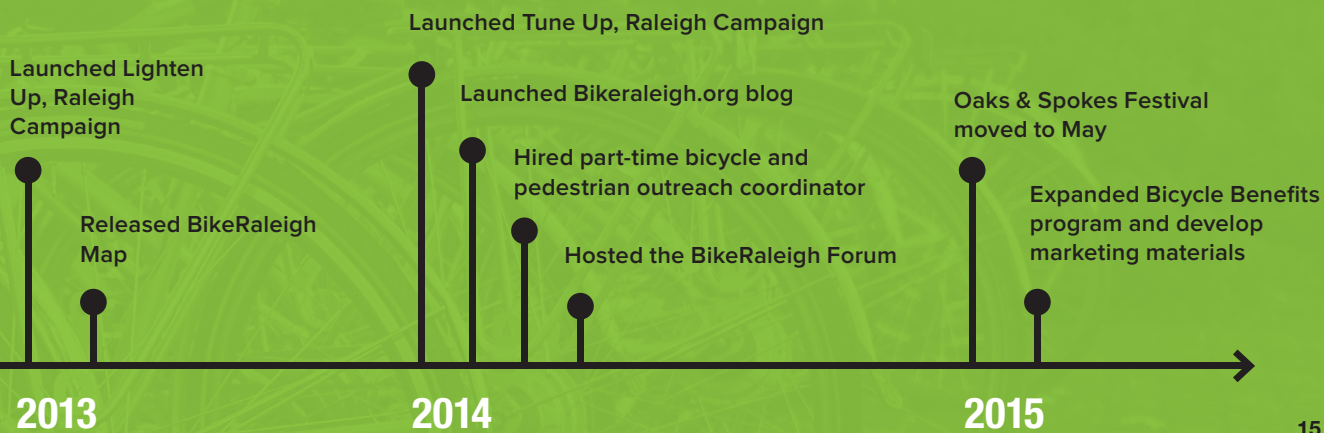
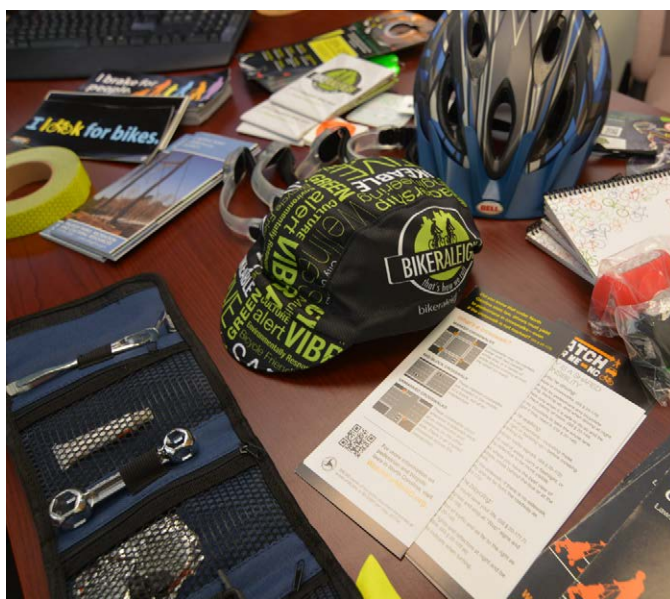






## Branding

Branding is much more than just a great logo or graphics. By creating a BikeRaleigh brand, the City aims to directly affect the way people travel and create a culture around biking in Raleigh.





## ENCOURAGEMENT

### OUTREACH EFFORTS

**Bike Month Socials** are fun bike themed events that provide opportunities for cyclists to connect and learn about the various resources the BikeRaleigh program offers.

**Bike Rides:** Raleigh has hosted several bike rides with different themes, such as the Raleigh Historic Bike Ride for cyclists of all levels to enjoy. The Capital City Bike Ride offers a fun opportunity to ride and mingle with local officials, bike advocates and city employees. The event has been sponsored by bicycle friendly businesses such as Rex Hospital and Red Hat.

**Bicycle Friendly Business** promotion aims to encourage a more bicycle friendly atmosphere for employees and customers. The City provides assistance to businesses interested in expanding their bicycle friendly programs and amenities.

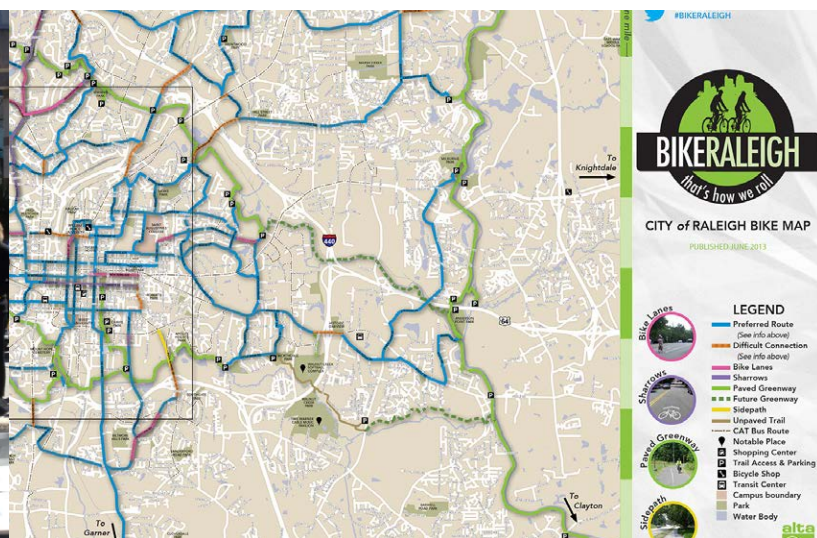
**Bicycle Benefits:** Program that rewards businesses and individuals that promote safe cycling and sustainable options. Supporting businesses offer specials and discounts to cyclists who show their bicycle benefits helmet sticker.



In 2013, the **Lighten Up, Raleigh** campaign was launched to remind citizens to be safe and be seen during Daylight Savings Time. The campaign partners with local bike shops to offer a 15% discount on any bike light purchase.

The **Tune Up, Raleigh** campaign launched to encourage cyclists to have their bikes inspected each spring. By partnering with local bike shops, a coupon was available for citizens to receive a 15% discount on tune-up services.

Using a 2013 TDM grant, the **BikeRaleigh Map** was developed to guide cyclists along a “preferred route” network aimed to cyclists of all levels. The map also highlights key destinations, bike shops, greenway trailheads, and much more.

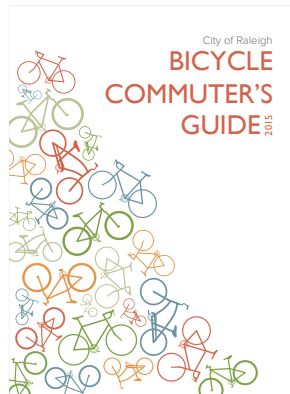




## COMMUTE SMART RALEIGH TRANSPORTATION DEMAND MANAGEMENT (TDM) EFFORTS

TDM outreach is becoming a vital component in Raleigh as the City attracts new citizens and builds new employment centers. The SmartCommuteRaleigh program develops, implements, and promotes TDM, safety, and education campaigns that encourage mode shift and safe travel behaviors.

A 2014 TDM grant from Triangle J Council of Governments funded a part-time bicycle and pedestrian outreach coordinator position. The grant also provided funds to support the Bicycle Benefits and Bicycle Friendly Business programs.



## NEXT STEPS

- 01** Continue to engage the public through social media and BikeRaleigh.org.
- 02** Conduct targeted bicycle safety outreach and encouragement, with a focus on low income communities.
- 03** Develop a bicycle buddy program to encourage more residents to try bicycle commuting by pairing new commuters with experienced riders.
- 04** Expand the bicycling-related elements of the region's TDM program by implementing a bicycle friendly business employer incentive program.
- 05** Develop a BikeRaleigh mobile application that connects cyclists to local bike resources.
- 06** Implement a bike share program.





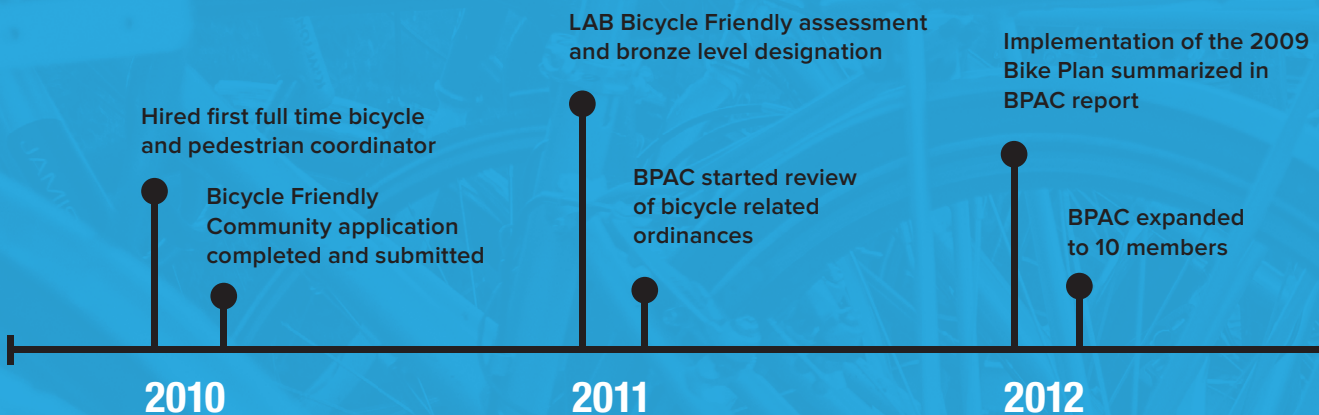
It's important to develop metrics to evaluate the BikeRaleigh program and plan for future improvements and activities. Dedicated staff, BPAC, City Council and Raleigh residents play a key role in monitoring the City's progress towards improving its bicycle friendly status.



#### PUBLIC INPUT

No one can evaluate Raleigh's cycling conditions better than cyclists themselves. The City is constantly soliciting public feedback online, during BPAC meetings and by hosting stand alone input sessions, like the 2014 BikeRaleigh forum.

#### ACCOMPLISHMENTS







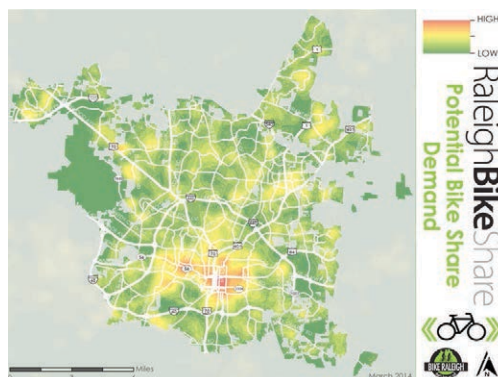
## Bicycle & Pedestrian Advisory Commission

### BPAC: THE BICYCLE AND PEDESTRIAN ADVISORY COMMISSION

is an all-volunteer advisory body, appointed by the City Council to provide guidance and leadership on all matters concerning bicycle and pedestrian activities and accommodation in Raleigh. BPAC members are responsible for making recommendations on the implementation of relevant programs, policies, regulations, and funding priorities regarding walking and cycling in the City of Raleigh.

### POLICY REVIEW

BPAC reviewed the entire City Code of Ordinance for all bicycle related references and recommended updates. City Council approved several recommendations, such as restricting parking in bike lanes, clarifying driver's responsibility to look before opening a car door, and updating the traffic schedule with current existing conditions.



### RALEIGH BIKE SHARE FEASIBILITY

A bike share feasibility study and implementation plan was completed in 2014. The study was a comprehensive planning-level analysis of the bike share concept.



### COUNT DATA

**2014 and ongoing:** Capital Area MPO conducting bicycle and pedestrian counts

**2013/2014:** Parks & Recreation Department conducted counts along greenway system

**2015:** City conducted bicycle and pedestrian counts at locations across the City.

Greenway user counts were conducted

Raleigh's bicycle crash data was evaluated to guide Watch for Me, NC campaign

BikeRaleigh forum invited the public to share feedback on program and next steps

Capital Area MPO launched a bicycle and pedestrian count program

First standalone bike counts collected along key corridors

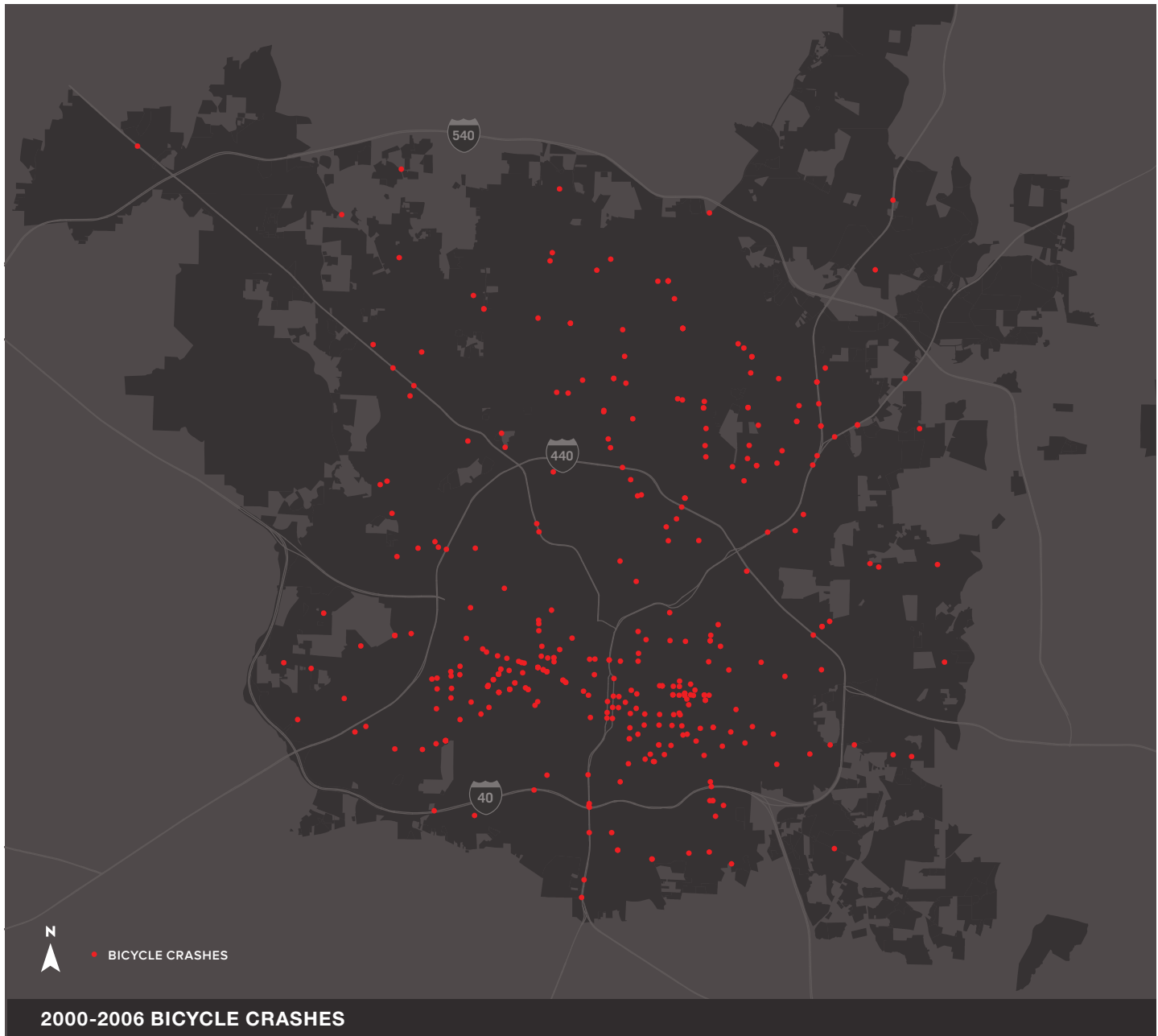
BikeRaleigh Plan Update kicked off with outreach and user surveys

2013

2014

2015

## EVALUATION



The 2009 Bike Plan conducted a thorough evaluation of bicycle crashes from 2000 to 2006, as seen in the above map. The map to the right shows the crashes from 2007-2015. **The 2015 BikeRaleigh Plan Update will analyze bicycle crashes in Raleigh, identify key areas of concern and recommend strategies to address these concerns.**

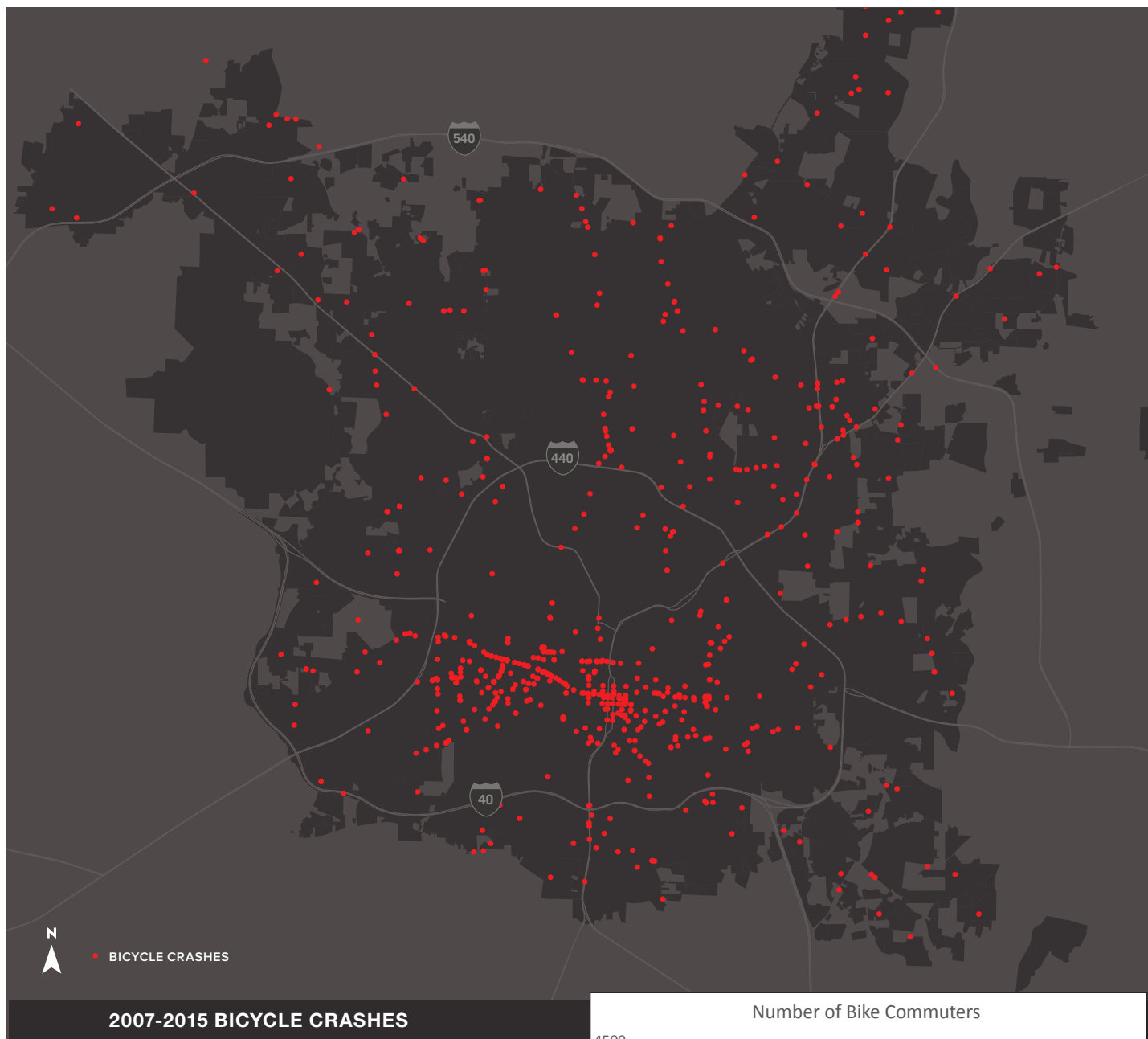
*Note: All data shown reflect only reported bicycle crashes in Raleigh. Close-calls or un-reported injuries are not accounted for.*

*Source: North Carolina Department of Transportation*

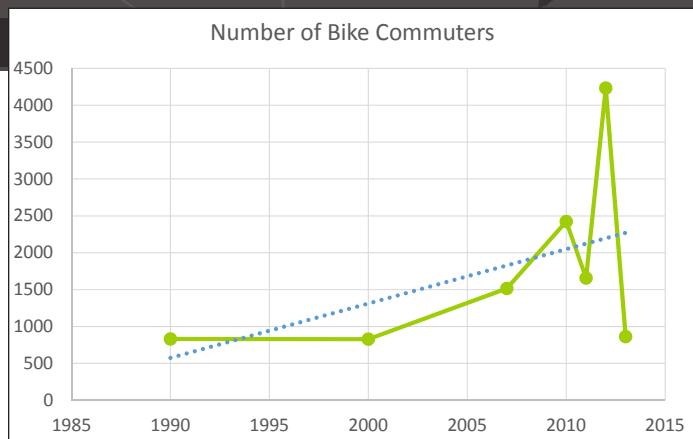
**AVERAGE YEARLY CRASH RATE  
PER 10,000 POPULATION:**

**2000-2006: 1.61**

**2007-2015: 1.89**



While it appears bicycle crashes increased between the two periods, it's important to note that ridership has generally increased over time, which likely accounts for the higher average yearly rate. When viewing the above maps, it is also important to note that the most recent time period of study is longer for the map on the right.

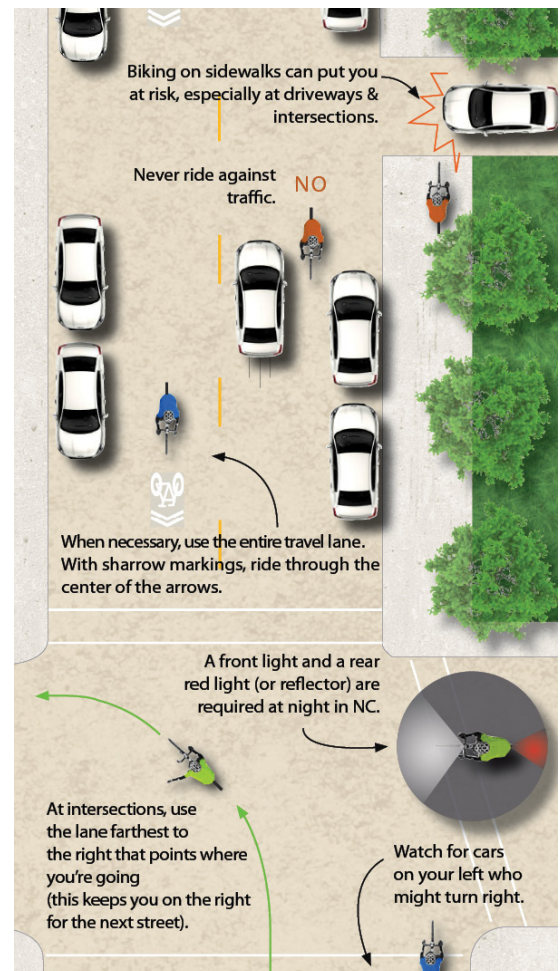


The blue-dashed line is the trendline which is moving upwards.



## EDUCATION

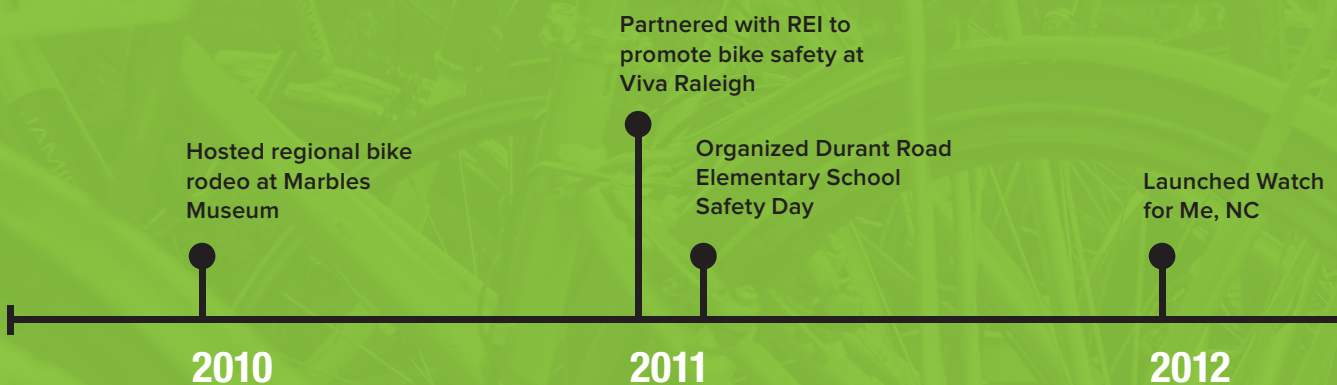
By offering different ways for citizens to gain the skills and confidence to ride, Raleigh will become a great place for bicycling. Much has been accomplished at the community level to ensure bicycle safety education is a routine part of public education, available to all users types, and targets both motorists and cyclists.



### HOW WE ROLL ...

The BikeRaleigh map provides tips for riding with traffic and basic bicycle safety education.

## ACCOMPLISHMENTS



## WATCH FOR ME, NC

NCDOT's "Watch for Me NC" program aims to reduce pedestrian and bicycle injuries and deaths through a comprehensive, targeted approach of public education. Raleigh served as a pilot city and played a key role in material and messaging development. Materials are displayed during several outreach events such as NCSU student orientation, employee health fairs, park/trail opening ceremonies, citizen advisory board meetings, walk or bike to school events, festivals, fairs, and farmers markets.



Hosted League of American Bicyclists Master Cycling Instructor Course

Released bike and trail safety radio advertisements

2013

Launched No Need to Speed safety campaign

Organized Leesville BikeSmart WalkSmart Fair

Hosted 1st Walking School Bus event attracting over 100 kids

2014

Distributed "Look for Bikes" window cling

Conducted employer lunch and learns promoting bike safety

2015



## EDUCATION

### SAFE ROUTES TO SCHOOL EFFORTS

Since launching in 2012, there have been significant steps completed to formalize a Raleigh Safe Routes to School program:



Developed Safe Routes to School Action Plans for the Leesville School Complex and Harris Creek Elementary School.



Hosted annual Walk to School and Bike to School events and partnered with Bike Smart-Grow Smart, a local non-profit.



Played a key role in the WakePedNet initiative to raise awareness of the child pedestrian injury concerns in Wake County.



Partnered with Wake County Public School Systems, Wake County PTA Board, and Advocates for Health in Action to offer SRTS program outreach and training to teachers and parents.



Served a leadership role in the development of a Wake County Safe Routes to School Prioritization Process to identify schools that need infrastructure improvements and/or education programming.



Selected as a pilot City for Wake County Safe Routes to School Project funded by a 2014 John Rex Endowment grant.

## NEXT STEPS

- 01** Continue to serve as a leader in SRTS in Wake County through active participation in CAMPO's SRTS committee.
- 02** Host Smart Cycling, Bicycling Skills 123 Youth, Safe Routes to School classes by League certified instructors.
- 03** Provide bicycle safety education to low-income and at-risk populations.
- 04** Partner with NCDOT's Active Routes to School program to share resources and expand the ability to reach more students.
- 05** Implement a safety campaign targeting trail users to reduce user conflicts on greenways and educate users on safe practices, such as keeping right and passing left, yielding to pedestrians, and providing an audible warning when passing.

## SNAPSHOTS





## ENFORCEMENT

The BikeRaleigh program aims to ensure safety for all road users. The Raleigh Police Department (RPD) has implemented several initiatives to ensure that officers understand the law as it relates to bicycle traffic and applies them equitably to ensure public safety.



### WATCH FOR ME, NC

Another key element of the The Watch for Me NC campaign involves enforcement efforts by RPD to crack down on some of the violations of traffic safety laws. Police targeted driver infraction of pedestrian crosswalk laws by issuing warnings, citations, or providing informational materials and verbal explanation of the crosswalk laws to drivers. In many cases, sandwich boards announcing the enforcement activities were placed in locations where enforcement operations were conducted. A two-day workshop was offered to RPD officers and university police interested in participating in the enforcement efforts as part of the campaign.

## ACCOMPLISHMENTS







## LAW ENFORCEMENT BICYCLE SAFETY TRAINING COURSE

In 2011, RPD, in partnership with BPAC and BikeWalkNC board member Steven Goodridge, PhD implemented a “Bicycle Safety and Law Enforcement” training course. All sworn officers are required to complete the course annually. The course consists of a detailed lesson guide, an online presentation and test. The course covers crash statistics, traffic principals for collision prevention, lawful bicycle driving, defensive bicycle driving practices, and common errors by motorists and bicyclists.

## NEXT STEPS

- 01** Expand Raleigh’s participation in the Watch for Me, NC enforcement component by conducting more events and developing an easy and efficient recording procedure.
- 02** Develop a “close call” reporting mechanism for cyclists to report aggressive drivers, close calls, collisions, and problem locations.
- 03** Research and evaluate emerging technology to enforce safe bicycle practices.

NCSU and RPD  
partnered to conduct  
enforcement  
operations around  
NCSU campus

RPD distributed over 200  
bike lights and reflective arm  
bands to local cyclists

Chief Deck-Brown  
supported Raleigh’s  
2015 Watch for Me,  
NC Campaign

2013

2014

2015



[WWW.BIKERALEIGH.ORG](http://WWW.BIKERALEIGH.ORG)